



Sequence Listing

<110> Adams, Sean
Pan, James
Zhong, Alan

<120> UCP4

<130> P1626R1

<140> US 09/397,342

<141> 1999-09-15

<150> US 60/101,279

<151> 1998-09-22

<150> US 60/114,223

<151> 1998-12-30

<150> US 60/129,674

<151> 1999-04-16

<160> 18

<210> 1

<211> 323

<212> PRT

<213> Homo sapiens

<400> 1

Met	Ser	Val	Pro	Glu	Glu	Glu	Glu	Arg	Leu	Leu	Pro	Leu	Thr	Gln	
1				5					10					15	
Arg	Trp	Pro	Arg	Ala	Ser	Lys	Phe	Leu	Leu	Ser	Gly	Cys	Ala	Ala	
				20					25					30	
Thr	Val	Ala	Glu	Leu	Ala	Thr	Phe	Pro	Leu	Asp	Leu	Thr	Lys	Thr	
				35					40					45	
Arg	Leu	Gln	Met	Gln	Gly	Glu	Ala	Ala	Leu	Ala	Arg	Leu	Gly	Asp	
				50					55					60	
Gly	Ala	Arg	Glu	Ser	Ala	Pro	Tyr	Arg	Gly	Met	Val	Arg	Thr	Ala	
				65					70					75	
Leu	Gly	Ile	Ile	Glu	Glu	Glu	Gly	Phe	Leu	Lys	Leu	Trp	Gln	Gly	
				80					85					90	
Val	Thr	Pro	Ala	Ile	Tyr	Arg	His	Val	Val	Tyr	Ser	Gly	Gly	Arg	
				95					100					105	
Met	Val	Thr	Tyr	Glu	His	Leu	Arg	Glu	Val	Val	Phe	Gly	Lys	Ser	
				110					115					120	
Glu	Asp	Glu	His	Tyr	Pro	Leu	Trp	Lys	Ser	Val	Ile	Gly	Gly	Met	
				125					130					135	
Met	Ala	Gly	Val	Ile	Gly	Gln	Phe	Leu	Ala	Asn	Pro	Thr	Asp	Leu	
				140					145					150	

Val	Lys	Val	Gln	Met	Gln	Met	Glu	Gly	Lys	Arg	Lys	Leu	Glu	Gly	
				155					160					165	
Lys	Pro	Leu	Arg	Phe	Arg	Gly	Val	His	His	Ala	Phe	Ala	Lys	Ile	
				170					175					180	
Leu	Ala	Glu	Gly	Gly	Ile	Arg	Gly	Leu	Trp	Ala	Gly	Trp	Val	Pro	
				185					190					195	
Asn	Ile	Gln	Arg	Ala	Ala	Leu	Val	Asn	Met	Gly	Asp	Leu	Thr	Thr	
				200					205					210	
Tyr	Asp	Thr	Val	Lys	His	Tyr	Leu	Val	Leu	Asn	Thr	Pro	Leu	Glu	
				215					220					225	
Asp	Asn	Ile	Met	Thr	His	Gly	Leu	Ser	Ser	Leu	Cys	Ser	Gly	Leu	
				230					235					240	
Val	Ala	Ser	Ile	Leu	Gly	Thr	Pro	Ala	Asp	Val	Ile	Lys	Ser	Arg	
				245					250					255	
Ile	Met	Asn	Gln	Pro	Arg	Asp	Lys	Gln	Gly	Arg	Gly	Leu	Leu	Tyr	
				260					265					270	
Lys	Ser	Ser	Thr	Asp	Cys	Leu	Ile	Gln	Ala	Val	Gln	Gly	Glu	Gly	
				275					280					285	
Phe	Met	Ser	Leu	Tyr	Lys	Gly	Phe	Leu	Pro	Ser	Trp	Leu	Arg	Met	
				290					295					300	
Thr	Pro	Trp	Ser	Met	Val	Phe	Trp	Leu	Thr	Tyr	Glu	Lys	Ile	Arg	
				305					310					315	
Glu	Met	Ser	Gly	Val	Ser	Pro	Phe								
				320											

<210> 2
 <211> 1039
 <212> DNA
 <213> Homo sapiens

<400> 2
 ccgagctcgg atcccggttat cgtcttgccg tactgctgaa tgtccgtccc 50
 ggaggaggag gagaggcttt tgccgctgac ccagagatgg ccccgagcga 100
 gcaaattcct actgtccggc tgcgcggcta ccgtggccga gctagcaacc 150
 tttcccctgg atctcacaaa aactcgactc caaatgcaag gagaagcagc 200
 tcttgctcgg ttgggagacg gtgcaagaga atctgcccc tataggggaa 250
 tgggtgcgcac agccctaggg atcattgaag aggaaggctt tctaaagctt 300
 tggcaaggag tgacacccgc catttacaga cacgtagtgt attctggagg 350
 tcgaatggtc acatatgaac atctccgaga ggttggtgtt ggcaaaagtg 400
 aagatgagca ttatcccctt tggaaatcag tcattggagg gatgatggct 450
 ggtgttattg gccagttttt agccaatoca actgacctag tgaaggttca 500
 gatgcaaatg gaaggaaaaa ggaaactgga aggaaaacca ttgcgatttc 550

gtggtgtaca tcatgcattt gcaaaaatct tagctgaagg aggaatacga 600
 gggctttggg caggctgggt acccaatata caaagagcag cactggtgaa 650
 tatgggagat ttaaccactt atgatacagt gaaacactac ttggtattga 700
 atacaccact tgaggacaat atcatgactc acggtttatc aagtttatgt 750
 tctggactgg tagcttctat tctgggaaca ccagccgatg tcatcaaaag 800
 cagaataatg aatcaaccac gagataaaca aggaagggga cttttgtata 850
 aatcatcgac tgactgcttg attcaggctg ttcaagggtga aggattcatg 900
 agtctatata aaggcttttt accatcttgg ctgagaatga ccccttggtc 950
 aatggtgttc tggcttactt atgaaaaaat cagagagatg agtggagtca 1000
 gtccatttta agaattctgc agatatccat cacactggc 1039

<210> 3
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Sequence is synthesized

<400> 3
 cgcggtatccc gttatcgtct tgcgctactg c 31

<210> 4
 <211> 34
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> reverse primer

<400> 4
 gcggaattct taaaatggac tgactccact catc 34

<210> 5
 <211> 1248
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Sequence is synthesized

<220>
 <221> unsure
 <222> 1231
 <223> unknown base

<400> 5
 cgttatcgtc ttgcgctact gctgaatgtc cgtcccggag gaggaggaga 50
 ggctttttgcc gctgaccacg agatggcccc gagcgagcaa attcctactg 100
 tccggctgcg cggctaccgt ggccgagcta gcaacctttc ccctggatct 150
 cacaaaaact cgactccaaa tgcaaggaga agcagctctt gctcggttgg 200

gagacggtgc aagagaatct gccccctata ggggaatggt ggcacacagcc 250
 ctagggatca ttgaagagga aggctttcta aagctttggc aaggagtgc 300
 acccgccatt tacagacacg tagttatttc tggaggtcga atggtcacat 350
 atgaacatct ccgagaggtt gtgtttggca aaagtgaaga tgagcattat 400
 cccctttgga aatcagtcac tggagggatg atggctggtg ttattggcca 450
 gtttttagcc aatccaactg acctagtga ggttcagatg caaatggaag 500
 gaaaaaggaa actggaagga aaaccattgc gatttcgtgg tgtacatcat 550
 gcatttgcaa aaatcttagc tgaaggagga atacgaaggc tttgggcagg 600
 ctgggtaccc aatatacaaa gagcagcact ggtgaatatg ggagatttaa 650
 ccacttatga tacagtga cactacttgg tattgaatac accacttgag 700
 gacaatatca tgactcacgg tttatcaagt ttatgttctg gactggtagc 750
 ttctattctg ggaacaccag ccgatgtcat caaaagcaga ataataatc 800
 aaccacgaga taaacaagga aggggacttt tgtataaatc atcgactgac 850
 tgcttgattc aggtgttca aggtgaagga ttcattgagtc tatataaagg 900
 ctttttacca tcttggtga gaatgacccc ttggtcaatg gtgttctggc 950
 ttacttatga aaaaatcaga gagatgagtg gagtcagtcc attttaaacc 1000
 cctaaagatg caacccttaa agatacagt ttcagtatta ttgaaatatg 1050
 ggcattctga acacataccc cctattattt ctacctctt aggaagacac 1100
 ctattccaca gagactgatt tatagggggc agcactttat ttttttctgg 1150
 aaaccaagt tctctttgac tcctcttttt gtccaaaagt gatctgggtc 1200
 gatctcaca ggccatccaa tgagaccccg nacagcattt tctaaaga 1248

<210> 6

<211> 58

<212> DNA

<213> Artificial Sequence

<220>

<223> Sequence is synthesized

<400> 6

cgcgatccg aaatggacta caaggacgac gatgacaagt ccgtcccgga 50

ggaggagg 58

<210> 7

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Sequence is synthesized

<400> 7
 gcgaagcttg ccatggttgg actgaagcct tcaga 35

 <210> 8
 <211> 33
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> reverse primer

 <400> 8
 cgcaattct caaaacggtg attcccgtaa cat 33

 <210> 9
 <211> 61
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Sequence is synthesized

 <400> 9
 gcgaagcttg ccatggacta caaggacgac gatgacaagg ttggactgaa 50

 gccttcagac g 61

 <210> 10
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Sequence is synthesized

 <400> 10
 aatgcctatc gccgaggag 19

 <210> 11
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> reverse primer

 <400> 11
 gtaggaactt gctcgtccgg 20

 <210> 12
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Sequence is synthesized

 <400> 12
 tgctcgcgct cacgcagaga tg 22

 <210> 13
 <211> 24
 <212> DNA

<213> Artificial Sequence

<220>

<223> Sequence is synthesized

<400> 13

gaaatcgtgc gtgacatcaa agag 24

<210> 14

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> reverse primer

<400> 14

ctccttctgc atcctgtcag caa 23

<210> 15

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Sequence is synthesized

<400> 15

cggttccgat gccctgaggc tc 22

<210> 16

<211> 307

<212> PRT

<213> Homo sapiens

<400> 16

Met	Gly	Gly	Leu	Thr	Ala	Ser	Asp	Val	His	Pro	Thr	Leu	Gly	Val
1				5					10					15

Gln	Leu	Phe	Ser	Ala	Pro	Ile	Ala	Ala	Cys	Leu	Ala	Asp	Val	Ile
				20					25					30

Thr	Phe	Pro	Leu	Asp	Thr	Ala	Lys	Val	Arg	Leu	Gln	Val	Gln	Gly
				35					40					45

Glu	Cys	Pro	Thr	Ser	Ser	Val	Ile	Arg	Tyr	Lys	Gly	Val	Leu	Gly
				50					55					60

Thr	Ile	Thr	Ala	Val	Val	Lys	Thr	Glu	Gly	Arg	Met	Lys	Leu	Tyr
				65					70					75

Ser	Gly	Leu	Pro	Ala	Gly	Leu	Gln	Arg	Gln	Ile	Ser	Ser	Ala	Ser
				80					85					90

Leu	Arg	Ile	Gly	Leu	Tyr	Asp	Thr	Val	Gln	Glu	Phe	Leu	Thr	Ala
				95					100					105

Gly	Lys	Glu	Thr	Ala	Pro	Ser	Leu	Gly	Ser	Lys	Ile	Leu	Ala	Gly
				110					115					120

Leu	Thr	Thr	Gly	Gly	Val	Ala	Val	Phe	Ile	Gly	Gln	Pro	Thr	Glu
				125					130					135

Val	Val	Lys	Val	Arg	Leu	Gln	Ala	Gln	Ser	His	Leu	His	Gly	Ile
				140					145					150
Lys	Pro	Arg	Tyr	Thr	Gly	Thr	Tyr	Asn	Ala	Tyr	Arg	Ile	Ile	Ala
				155					160					165
Thr	Thr	Glu	Gly	Leu	Thr	Gly	Leu	Trp	Lys	Gly	Thr	Thr	Pro	Asn
				170					175					180
Leu	Met	Arg	Ser	Val	Ile	Ile	Asn	Cys	Thr	Glu	Leu	Val	Thr	Tyr
				185					190					195
Asp	Leu	Met	Lys	Glu	Ala	Phe	Val	Lys	Asn	Asn	Ile	Leu	Ala	Asp
				200					205					210
Asp	Val	Pro	Cys	His	Leu	Val	Ser	Ala	Leu	Ile	Ala	Gly	Phe	Cys
				215					220					225
Ala	Thr	Ala	Met	Ser	Ser	Pro	Val	Asp	Val	Val	Lys	Thr	Arg	Phe
				230					235					240
Ile	Asn	Ser	Pro	Pro	Gly	Gln	Tyr	Lys	Ser	Val	Pro	Asn	Cys	Ala
				245					250					255
Met	Lys	Val	Phe	Thr	Asn	Glu	Gly	Pro	Thr	Ala	Phe	Phe	Lys	Gly
				260					265					270
Leu	Val	Pro	Ser	Phe	Leu	Arg	Leu	Gly	Ser	Trp	Asn	Val	Ile	Met
				275					280					285
Phe	Val	Cys	Phe	Glu	Gln	Leu	Lys	Arg	Glu	Leu	Ser	Lys	Ser	Arg
				290					295					300
Gln	Thr	Met	Asp	Cys	Ala	Thr								
				305										

<210> 17
 <211> 309
 <212> PRT
 <213> Homo sapiens

<400> 17

Met	Val	Gly	Phe	Lys	Ala	Thr	Asp	Val	Pro	Pro	Thr	Ala	Thr	Val
1				5					10					15
Lys	Phe	Leu	Gly	Ala	Gly	Thr	Ala	Ala	Cys	Ile	Ala	Asp	Leu	Ile
				20					25					30
Thr	Phe	Pro	Leu	Asp	Thr	Ala	Lys	Val	Arg	Leu	Gln	Ile	Gln	Gly
				35					40					45
Glu	Ser	Gln	Gly	Pro	Val	Arg	Ala	Thr	Val	Ser	Ala	Gln	Tyr	Arg
				50					55					60
Gly	Val	Met	Gly	Thr	Ile	Leu	Thr	Met	Val	Arg	Thr	Glu	Gly	Pro
				65					70					75
Arg	Ser	Leu	Tyr	Asn	Gly	Leu	Val	Ala	Gly	Leu	Gln	Arg	Gln	Met
				80					85					90
Ser	Phe	Ala	Ser	Val	Arg	Ile	Gly	Leu	Tyr	Asp	Ser	Val	Lys	Gln
				95					100					105

Phe	Tyr	Thr	Lys	Gly	Ser	Glu	His	Ala	Ser	Ile	Gly	Ser	Arg	Leu
				110					115					120
Leu	Ala	Gly	Ser	Thr	Thr	Gly	Ala	Leu	Ala	Val	Ala	Val	Ala	Gln
				125					130					135
Pro	Thr	Asp	Val	Val	Lys	Val	Arg	Phe	Gln	Ala	Gln	Ala	Arg	Ala
				140					145					150
Gly	Gly	Gly	Arg	Arg	Tyr	Gln	Ser	Thr	Val	Asn	Ala	Tyr	Lys	Thr
				155					160					165
Ile	Ala	Arg	Glu	Glu	Gly	Phe	Arg	Gly	Leu	Trp	Lys	Gly	Thr	Ser
				170					175					180
Pro	Asn	Val	Ala	Arg	Asn	Ala	Ile	Val	Asn	Cys	Ala	Glu	Leu	Val
				185					190					195
Thr	Tyr	Asp	Leu	Ile	Lys	Asp	Ala	Leu	Leu	Lys	Ala	Asn	Leu	Met
				200					205					210
Thr	Asp	Asp	Leu	Pro	Cys	His	Phe	Thr	Ser	Ala	Phe	Gly	Ala	Gly
				215					220					225
Phe	Cys	Thr	Thr	Val	Ile	Ala	Ser	Pro	Val	Asp	Val	Val	Lys	Thr
				230					235					240
Arg	Tyr	Met	Asn	Ser	Ala	Leu	Gly	Gln	Tyr	Ser	Ser	Ala	Gly	His
				245					250					255
Cys	Ala	Leu	Thr	Met	Leu	Gln	Lys	Glu	Gly	Pro	Arg	Ala	Phe	Tyr
				260					265					270
Lys	Gly	Phe	Met	Pro	Ser	Phe	Leu	Arg	Leu	Gly	Ser	Trp	Asn	Val
				275					280					285
Val	Met	Phe	Val	Thr	Tyr	Glu	Gln	Leu	Lys	Arg	Ala	Leu	Met	Ala
				290					295					300
Ala	Cys	Thr	Ser	Arg	Glu	Ala	Pro	Phe						
				305										

<210> 18
 <211> 300
 <212> PRT
 <213> Homo sapiens

<400> 18
 Met Ala Val Lys Phe Leu Gly Ala Gly Thr Ala Ala Cys Phe Ala
 1 5 10 15
 Asp Leu Val Thr Phe Pro Leu Asp Thr Ala Lys Val Arg Leu Gln
 20 25 30
 Ile Gln Gly Glu Asn Gln Ala Val Gln Thr Ala Arg Leu Val Gln
 35 40 45
 Tyr Arg Gly Val Leu Gly Thr Ile Leu Thr Met Val Arg Thr Glu
 50 55 60
 Gly Pro Cys Ser Pro Tyr Asn Gly Leu Val Ala Gly Leu Gln Arg
 65 70 75

Gln	Met	Ser	Phe	Ala	Ser	Ile	Arg	Ile	Gly	Leu	Tyr	Asp	Ser	Val	80	85	90
Lys	Gln	Val	Tyr	Thr	Pro	Lys	Gly	Ala	Asp	Asn	Ser	Ser	Leu	Thr	95	100	105
Thr	Arg	Ile	Leu	Ala	Gly	Cys	Thr	Thr	Gly	Ala	Met	Ala	Val	Thr	110	115	120
Cys	Ala	Gln	Pro	Thr	Asp	Val	Val	Lys	Val	Arg	Phe	Gln	Ala	Ser	125	130	135
Ile	His	Leu	Gly	Pro	Ser	Arg	Ser	Asp	Arg	Lys	Tyr	Ser	Gly	Thr	140	145	150
Met	Asp	Ala	Tyr	Arg	Thr	Ile	Ala	Arg	Glu	Glu	Gly	Val	Arg	Gly	155	160	165
Leu	Trp	Lys	Gly	Thr	Leu	Pro	Asn	Ile	Met	Arg	Asn	Ala	Ile	Val	170	175	180
Asn	Cys	Ala	Glu	Val	Val	Thr	Tyr	Asp	Ile	Leu	Lys	Glu	Lys	Leu	185	190	195
Leu	Asp	Tyr	His	Leu	Leu	Thr	Asp	Asn	Phe	Pro	Cys	His	Phe	Val	200	205	210
Ser	Ala	Phe	Gly	Ala	Gly	Phe	Cys	Ala	Thr	Val	Val	Ala	Ser	Pro	215	220	225
Val	Asp	Val	Val	Lys	Thr	Arg	Tyr	Met	Asn	Ser	Pro	Pro	Gly	Gln	230	235	240
Tyr	Phe	Ser	Pro	Leu	Asp	Cys	Met	Ile	Lys	Met	Val	Ala	Gln	Glu	245	250	255
Gly	Pro	Thr	Ala	Phe	Tyr	Lys	Gly	Phe	Thr	Pro	Ser	Phe	Leu	Arg	260	265	270
Leu	Gly	Ser	Trp	Asn	Val	Val	Met	Phe	Val	Thr	Tyr	Glu	Gln	Leu	275	280	285
Lys	Arg	Ala	Leu	Met	Lys	Val	Gln	Met	Leu	Arg	Glu	Ser	Pro	Phe	290	295	300
